

Control Rod Guide Tube Inspection

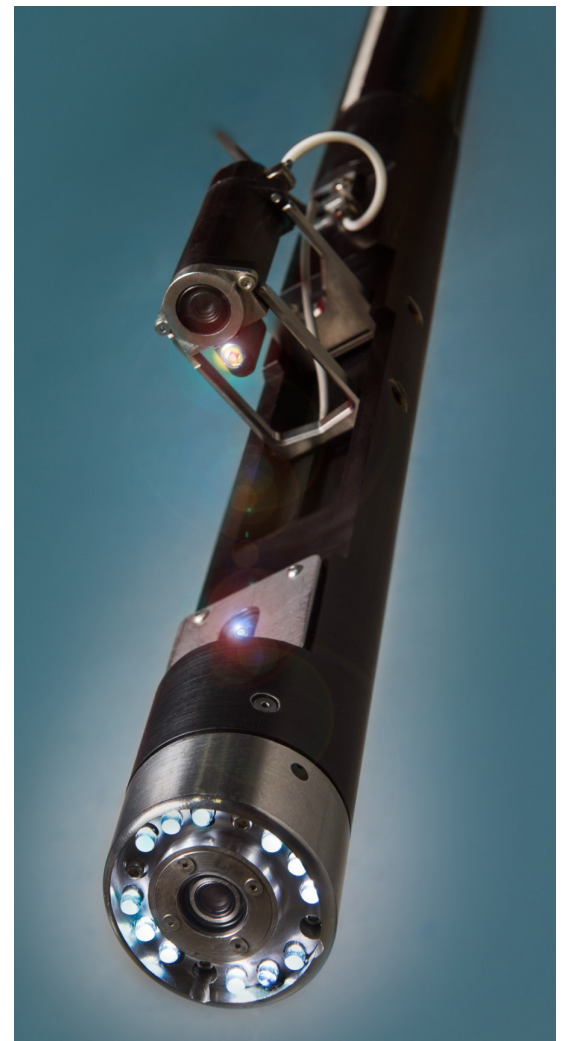
Control rod guide tube (CRGT) inspection tool examines your guide cards to ensure safe plant operation during extended plant life

Challenge

Extending the life of today's nuclear fleet to ensure the future of the industry is a primary concern. To ensure successful life extension, utilities must meet requirements, which include the examinations identified in MRP-227. Having the right tools for inspection that are not only reliable, but also deliver on safety and accuracy, is crucial in this process.

Solution

The Framatome control rod guide tube (CRGT) inspection tool reliably examines your guide cards to ensure safe plant operation during extended plant life. The tool performs a VT-3 exam and accesses all CRGT guide card elevations while measuring wear on any worn slot locations observed. The CRGT tool efficiently increases job safety and inspection speed, while complying with industry MRP-227/228 requirements.



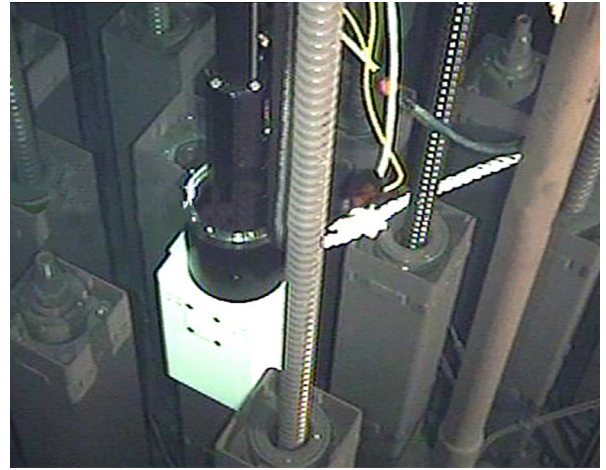
Customer benefits

- Supports plant life projections with examination and measurement to verify wear
- Fast, complete inspection with wide angle for VT-3 inspection, delivering high-resolution capability to measure guide card slot geometry
- All images recorded using Framatome IVVI software for accuracy (camera resolution of $\sim .0025''$ per pixel (.06mm/pxl) — more than adequate for identifying wear)

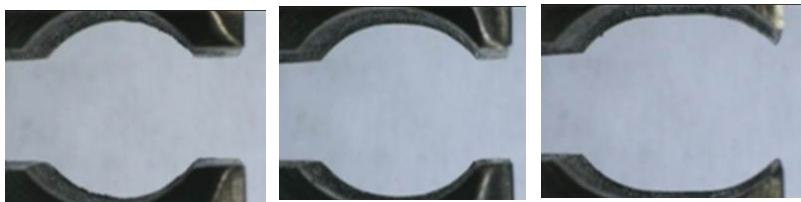
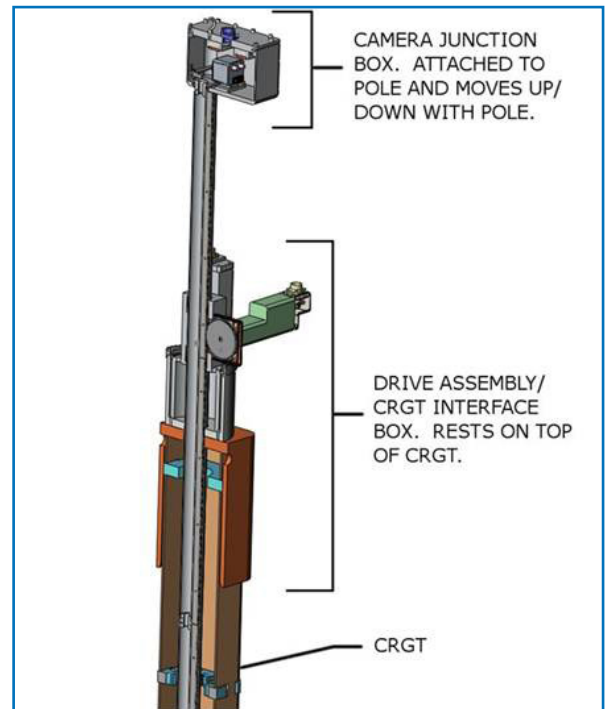
Your performance
is **our** everyday **commitment**

Features

- CRGT tool delivers a color camera through the central opening to each guide card elevation
- Camera image is confirmed against a reference standard
- Process involves:
 - Installation of the tool on the CRGT, ensuring known orientation
 - Insertion to the first guide card elevation
 - A 360° VT-3 examination camera scans the entire card returning to the 0° position
 - The tool is repositioned and the measurement camera is deployed above the 0° slot
 - Index and repeat measurement image capture for all slots



CRGT tool positioned for guide card inspections



Minimum Wear

Stage A Wear

Stage B Wear

Simple and reliable tooling allows rapid and direct measurement of control rod guides.

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